

Application No. 10/809,436
Reply to Office Action of November 8, 2006

N THE DRAWINGS

The attached sheet of drawings includes changes to Fig. 2. This sheet, which includes Fig. 2, replaces the original sheet including Fig. 2.

Attachment: Replacement Sheet

REMARKS/ARGUMENTS

Favorable reconsideration of this application as presently amended and in light of the following discussion is respectfully requested.

Claims 2-20 are presently active in this case. Claim 1 cancelled, Claims 2 and 5-8 amended, and Claims 9-20 added by way of the present amendment.

In the outstanding Office Action, the drawings were objected to for informalities; Claims 2, 5, 6 and 8 were rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 5,094,885 to Selbrede; and Claims 3, 4 and 7 were rejected under 35 U.S.C. §103(a) as unpatentable over Selbrede in view of U.S. Patent No. 6,630,201 to Chiang.

First, Applicant wishes to thank Examiner Zervigon for the January 25, 2007 personal interview at which time the outstanding issues in this case were discussed. During the interview, Applicant presented amendments and argument substantially as indicated in this response. While no formal agreement was reached as to allowability of the present application, Examiner Zervigon indicated that the amendments and arguments contained herein overcome the outstanding rejection, but further search and consideration is needed.

With regard to the objection to the drawings, Applicant has now amended the specification to correct discovered informalities and to include a description of reference character 290. Therefore, the objection to the drawings is believed to be overcome. In addition, Applicant has amended the specification and drawings to refer to the plenum ring adaptor 252, now recited in Claim 9.

Turning now to the merits, in order to expedite issuance of a patent in this case, Applicant has canceled Claim 1 and added Claims 9-20 to clarify the patentable distinctions of the present invention over the cited references. Specifically, Applicant's Claim 9 recites a temperature controlled shield ring for shielding a substrate holder in a processing system, the

shield ring including a cap having a coolant passage therein and a plenum adapter coupled to the cap. Also recited is that the plenum adapter is configured to connect to a coolant system for circulating coolant to the coolant passage and that the plenum is adapter is configured to be coupled to a substrate holder. Thus, Applicant's new Claim 9 emphasizes that the temperature controlled shield ring functions to shield the substrate holder in the processing system, and further that the shield ring includes both a cap and a plenum adapter.

In contrast, the cited reference to Selbrede discloses an apparatus for preventing edge and backslide coating during a deposition process. As seen in Figures 1 and 2, the apparatus includes flexible wafer supports 23 and 25 on which a semiconductor wafer 27 rests. Movable clamp ring 29 makes topside contact with a substrate a periphery thereof, and moves the substrate downward to bias the flexible wafer supports 23 and 25. This creates a seal within cavity 45 to prevent deposition gases from contacting the side edge and backside of the semiconductor wafer 27. As best seen in Figure 2, the clamp ring includes a water channel 89. However, the movable clamp ring 29 is shown as an integral piece having the water channel formed therein. Thus, Selbrede does not disclose a shield ring including a cap having a coolant passage therein and a plenum adapter coupled to the cap and configure to connect to a coolant system as now required by Claim 9. In this regard, Applicant notes that the Office Action cites the hatch-marked portion of the wafer channel 89 in Figure 2 as meeting the cap limitation of Applicant's claims. However, as seen in Figure 2, the cap closes the water channel 89, but does not include a channel within the cap itself. Moreover, the movable clamp 29 does not include a plenum adapter for contacting the substrate holder and also configured to connect to a coolant system as also required by the claim. Thus, Applicant's Claim 9 patentably defines over the cited reference to Selbrede. As Claims 2-8 and 10-15 depend from Claim 9, these claims also patentably define over Selbrede.

Nevertheless, Applicant notes that new Claims 10-15 recite further details of the shield ring which further distinguish these claims over the cited references. Specifically, Applicant's Claim 10 recites that the cap is coupled to the plenum adapter by at least one annular nut. Claims 11-13 recite features of a seal provided between the cap and the plenum adapter. Claims 14-15 recite details of the heat conducting element, and Claim 16 recites details of the insulating member. The cited references do not disclose any of these features.

Finally, Applicant has added new Claims 17-19 which recite a substrate holder assembly including the temperature controlled substrate holder in combination with a temperature controlled shield ring. The cited reference to Selbrede does not disclose this combination as claimed in Claims 17-19. Therefore, Claims 17-19 also patentably define over the cited references.

Consequently, in view of the present amendment, no further issues are believed to be outstanding in the present application. The present application is believed in condition for formal allowance. An early and favorable action is therefore respectfully requested.

Respectfully submitted,

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